



EXTRACTIVES & MINERALS PROCESSING SECTOR

BASIS FOR CONCLUSIONS

Coal Operations

Sustainable Industry Classification System® (SICS®) EM-CO

Prepared by the
Sustainability Accounting Standards Board

October 2018

sasb.org

About SASB

The SASB Foundation was founded in 2011 as a not-for-profit, independent standards-setting organization. The SASB Foundation's mission is to establish and maintain industry-specific standards that assist companies in disclosing financially material, decision-useful sustainability information to investors.

The SASB Foundation operates in a governance structure similar to the structure adopted by other internationally recognized bodies that set standards for disclosure to investors, including the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB). This structure includes a board of directors ("the Foundation Board") and a standards-setting board ("the Standards Board" or "the SASB"). The Standards Board develops, issues, and maintains the SASB standards. The Foundation Board oversees the strategy, finances and operations of the entire organization, and appoints the members of the Standards Board.

The Foundation Board is not involved in setting standards, but is responsible for overseeing the Standards Board's compliance with the organization's due process requirements. As set out in the SASB Rules of Procedure, the SASB's standards-setting activities are transparent and follow careful due process, including extensive consultation with companies, investors, and relevant experts.

SUSTAINABILITY ACCOUNTING STANDARDS BOARD

1045 Sansome Street, Suite 450
San Francisco, CA 94111
415.830.9220
info@sasb.org

sasb.org

The information, text, and graphics in this publication (the "Content") are owned by The SASB Foundation. All rights reserved. The Content may be used only for non-commercial, informational, or scholarly use, provided that all copyright and other proprietary notices related to the Content are kept intact, and that no modifications are made to the Content. The Content may not be otherwise disseminated, distributed, republished, reproduced, or modified without the prior written permission of The SASB Foundation. To request permission, please contact us at info@sasb.org.

Table of Contents

Introduction	4
The Standards Board.....	4
Development of the Sustainability Accounting Standards	4
Approval of the Industry Standard.....	5
Future Updates to the Standards.....	6
Revision EM-CO:01 – Industry: Coal Operations; Topic Name: Greenhouse Gas Emissions	7
Revision EM-CO:02 – Industry: Coal Operations; Topic Name: Water Management	9
Revision EM-CO:03 – Industry: Coal Operations; Topic Name: Community Relations & Rights of Indigenous Peoples.....	12
Revision EM-CO:04 – Industry: Coal Operations; Topic Name: Workforce Health, Safety, and Well-Being... ..	15
Revision EM-CO:05 – Industry: Coal Operations; Topic Name: Reserves Valuation & Capital Expenditures..	16
Appendix A. Standards Board – Sector Committee Assignments	20
Appendix B. Redline Metric Tables	21

Introduction

The publication of the Sustainability Accounting Standard (“Standard”) for the [Coal Operations Industry](#) marks an important milestone for the industry and for global capital markets more generally. It is the first Standard designed to assist companies in the Coal Operations industry in disclosing financially material, decision-useful sustainability information to investors.

The Coal Operations Industry Standard was first released in a provisional form in June 2015 after an extensive standard-setting process. Following the release of the Provisional Standard, the SASB staff, under the guidance of the SASB standard-setting board (“the Standards Board” or “the SASB”), engaged in further due process to revise the Standard. In October 2018, the Standards Board approved revisions to the Standard. The Standards Board subsequently voted to approve the Coal Operations Industry Standard, thereby including it in as one of the 77 industries for which the SASB has developed and published an industry standard.

The *Basis for Conclusions* describes the rationale for revisions made to the provisional industry standard. Additionally, the document outlines the standard-setting process the Standards Board used to codify the standard. All standard-setting documentation, including prior drafts of the standard, summary reports, and comment letters, which informed the development of the standard, are publicly available at the [Standard Setting Archive](#) of the SASB website.

The Standards Board

The Standards Board is charged with developing, issuing, and maintaining SASB standards. The Standards Board operates in accordance with its primary governance documents, including the SASB’s [Conceptual Framework](#) and [Rules of Procedure](#). The [Conceptual Framework](#) sets out the basic concepts, principles, definitions, and objectives that guide the Standards Board in its approach to setting standards. The [Rules of Procedure](#) establishes the due process followed by the Standards Board and staff in their standard-setting activities. The standard-setting process is designed to ensure each industry standard reflects the core objectives established in the [Conceptual Framework](#) to facilitate companies’ cost-effective reporting of financially material and decision-useful sustainability information to investors.

In its standard-setting role, the Standards Board operates in a transparent manner, including holding public board meetings. The Standards Board currently uses a sector-based committee structure, with three Standards Board members assigned primary responsibility for each given sector. In addition to sector committee reviews, the full Standards Board evaluates revisions to the standards. Information on Standards Board meetings, including minutes, agendas, and a schedule of upcoming meetings is available on the SASB website. A list of Standards Board members and their respective sector committee assignments is included in **Appendix A**.

Development of the Sustainability Accounting Standards

SASB staff initiated its standard-setting activities in 2012 under the oversight of the Standards Council.¹ From August 2012 to March 2016, the SASB staff developed provisional standards for each of the industries identified in the [Sustainable Industry Classification System® \(SICS®\)](#).² The provisional standards were developed through an iterative

¹ The Standards Council served in a process oversight role, distinct from the standard-setting role the Standards Board serves in. Upon completion of the provisional phase in 2016, the Standards Council was disbanded.

² At the time of the development of the provisional standards, SICS® contained 79 industries. SICS® was subsequently revised to 77 industries as a result of the combining of industries that contained similar sustainability-related risk and opportunity characteristics.

and transparent process centered on independent research, market input, and oversight from the Standards Council. Each provisional industry standard was developed based on staff research, industry working group (“IWG”) feedback, public comments, and individual consultations with companies, investors, and other relevant experts. Throughout the development of the provisional standards, more than 2,800 individuals participated in IWGs, 172 public comment letters were received, and hundreds of individual consultations were conducted with market participants by the SASB staff.

In 2016, following the issuance of the provisional standards across all industries, the SASB staff initiated a dedicated market consultation period to gain further insight into market views on the provisional standards. Subsequently, the Standards Board was seated and initiated a due process phase that culminated in the codification of 77 industry standards in October 2018. This standard-setting phase that began with the provisional standards and concluded with the codified standards is described more fully below. All standard-setting documentation discussed below are publicly available at the [Standard Setting Archive](#) of the SASB website.

- **Consultation:** In the six-month period from Q4 2016 – Q1 2017, the SASB staff conducted consultations to gather additional input from companies, investors, and relevant experts on the provisional standards. Throughout this phase, the SASB staff received input on the complete set of industry standards from individual consultations conducted with 141 companies, 19 industry associations, and 271 investor consultations via 38 institutional investors. The *Consultation Summary* comprises the findings from the consultations.
- **Technical Agenda:** In July 2017, after a period of review to evaluate market input from consultations on the provisional standards, the Standards Board worked with the SASB staff to publish the *Technical Agenda*. The *Technical Agenda* formally lists the areas of focus to address in preparing the standards for codification, emphasizing those issues for which strong evidence surfaced and/or those which received significant market feedback during the consultation period.
- **Public Comment Period:** In October 2017, the Standards Board published exposure drafts of the standards, which incorporated proposed changes guided by the *Technical Agenda* to the provisional standards. This opened a 90-day period, subsequently extended to a 120-day period, from October 2017 to January 2018, for public comment and review of proposed changes to provisional standards. Market participants provided 120 comment letters during the comment period. All letters received and a *Summary of Public Comments* are available at the [Standard Setting Archive](#).

The Standards Board and the SASB staff evaluated the public comments received in conjunction with previous market input and research to determine the revisions to be made to the provisional standard.

Approval of the Industry Standard

On October 13, 2018, the Standards Board voted unanimously to revise the Provisional Standard for the Coal Operations industry. In light of these revisions, on October 16, 2018, the Standards Board voted unanimously in favor of removing this Standard’s provisional status. In doing so, the Standards Board considered all phases of the standard-setting process, including those detailed in the above documents, to assess their underlying rationale, their adherence to due process, and their faithfulness to the essential concepts of sustainability accounting, as described in the [Conceptual Framework](#).

The following section of this document describes the rationale for the revisions. **Appendix B** contains a redline table that summarizes these revisions. Revisions relative to the provisional standard that have not altered the scope or content of disclosure topics or metrics, such as those that are intended to improve the consistency, clarity, and accuracy of the standard, are not specifically addressed in the *Basis for Conclusions*.

Future Updates to the Standards

As social, economic, regulatory, and other developments alter an industry's competitive landscape, the SASB standards may need to evolve to reflect new market dynamics. The Standards Board will follow a regular standards review cycle to address emerging and evolving issues that may result in updates to the SASB standards.

The Standards Board intends to direct the SASB staff to compile and publish a *Research Agenda*, which outlines items that have been identified as requiring further analysis. Evidence-based research and market input, including feedback from outreach and consultation, will inform reviews of issues on the *Research Agenda*. Items from the *Research Agenda* may later be added to the Standards Board's *Technical Agenda* for additional due process and formal deliberation. All updates are subject to the standard-setting process described in the [Rules of Procedure](#).

Revision EM-CO:01 – **Industry:** Coal Operations; **Topic Name:** Greenhouse Gas Emissions

Summary of Change – Revise Technical Protocol

The SASB revised the technical protocol for provisional metric NR0201-01, “Gross global Scope 1 emissions, percentage covered under a regulatory program,” to provide additional guidance regarding the types of emissions that companies should include when preparing their disclosure.

Adherence to Attributes of Technical Protocols

The Coal Operations Industry Provisional Standard includes a disclosure topic, Greenhouse Gas Emissions, with associated metrics to describe a company’s direct greenhouse gas emissions as well as their management strategy related to such emissions. Metric NR0201-01, specifically, includes a company’s gross direct (Scope 1) emissions as well as the percentage of such emissions that are covered under a regulatory program. The provisional technical protocol associated with the metric referenced the World Resources Institute (WRI) Greenhouse Gas Protocol to define the methodology for calculating such emissions. While the technical protocol provided relevant guidance, it did not provide examples of specific types of emissions sources companies should include when preparing their disclosures. While such emissions were included in the scope of disclosure by reference to the Greenhouse Gas Protocol, they were not explicitly mentioned, which may result in a lack of clarity for companies when preparing their disclosures, adversely impacting the completeness of the technical protocol. As such, the technical protocol was revised to explicitly mention such emissions sources to eliminate this uncertainty, thereby ensuring the completeness of the technical protocol and enhancing the consistency and quality of the information generated by the standard.

Supporting Analysis

Companies in the Coal Operations industry may generate greenhouse gas (GHG) emissions through a number of different sources including, but not limited to, vehicle emissions, fixed equipment emissions, coal seam methane emissions, and emissions associated with mine-mouth or other power generation units. Additionally, such emissions can occur at different times in the lifecycle of a coal asset, including development, production, closure, and post-closure remediation.

In the provisional technical protocol, the SASB referenced the WRI Greenhouse Gas Protocol, which noted that for Scope 1 Emissions, the reporting scope should include, “Direct GHG emissions occur from sources that are owned or controlled by the company.” As such, the SASB explicitly includes emissions from any facilities, equipment, or operations that are owned or controlled by the company, which would include methane emissions from mines that are owned or controlled by the company regardless of whether these assets are operational or non-operational. As such, emissions such as those noted above are included within the scope of disclosure by reference to the requirements of the Greenhouse Gas Protocol.

To enhance the clarity of the technical protocol, the types and sources of GHG emissions that companies should consider when preparing their disclosures has been added. Specifically, NR0201-01.02 bullet 1, which provides examples of the types of emissions sources that companies should consider in preparing their disclosures, was revised to include the mention of coal seam methane emissions and mine-mouth electric generating facilities as examples of items that the company should include in the scope of disclosure (even though the inclusion of such emissions would already be implicitly required under NR0201-01.01 via reference to the Greenhouse Gas Protocol). The technical

protocol was additionally revised to note that such emissions should be reported throughout the coal asset lifecycle, including development, production, closure, and post-closure remediation.

Market Input

Investors: Multiple investors were supportive of SASB's process to define technical protocols that are objective and relevant to the subject matter.

Companies: Companies did not provide direct feedback on the revision to the standard; however, companies were generally supportive of revisions that enhanced the representativeness of the standard without adversely impacting the cost-effectiveness.

Benefits

Improves the SASB Standard: This revision enhances the completeness of the technical protocol by including additional specificity with respect to the sources of emissions and phases of a coal asset's lifecycle that are included in the scope of disclosure per the referenced Greenhouse Gas Protocol.

Revision EM-CO:02 – **Industry:** Coal Operations; **Topic Name:** Water Management

2017 Technical Agenda Item #4-26 Description

The SASB is evaluating revisions to the water quality metric NR0201-04³ to improve its decision-usefulness.

Summary of Change – Revise Technical Protocol

The SASB revised the technical protocol for provisional metric NR0201-04, “Number of incidents of non-compliance with water quality permits, standards, and regulations,” to limit the scope of incidents of non-compliance to exclusively those that result in a formal enforcement action.

Adherence to Attributes of Technical Protocols

The Coal Operations Industry Provisional Standard includes a disclosure topic, Water Management, that is centered on corporate performance and strategy concerning water-related risks and opportunities. The metrics associated with the topic focus on water consumption, water scarcity, effluent, and regulatory compliance. More specifically, metric NR0201-04 is designed to capture a company’s performance on complying with state- or federal-level water quality regulations, including regulations on water treatment and discharges. Performance on incidents of non-compliance are an indication of the strength of a company’s overall water quality management, its ability to comply with regulation, and its exposure to potential operational impacts associated with non-compliance, including costs related to permitting, penalties, remediation, and capital expenditures. However, the provisional metric scope, as defined in the technical protocol, was excessively broad as it stated, “[a]n incident of non-compliance shall be disclosed regardless of whether it resulted in an enforcement action (e.g., fine, warning letter, etc).” Incidents of non-compliance vary widely in terms of the nature and severity of impact, and they may or may not result in enforcement actions.

Given the broadly defined scope of non-compliance incidents, the provisional metric did not provide fair representation of corporate performance on the topic and it was less likely to be cost-effective. The revision to the technical protocol for the metric limits the scope of non-compliance incidents exclusively to those that result in formal enforcement actions. It ultimately improves the signal-to-noise ratio by focusing on those incidents more likely to indicate operational or financial impacts. This revision improves the representativeness and cost-effectiveness of the metric, as well as the comparability and usefulness of the information it generates.

Supporting Analysis

Water regulations in the U.S., Canada, and many international regions typically address the quality of water discharges from manufacturing facilities. Water-intensive industries, such as the Coal Operations industry, may also be affected by state or federal regulations that address water withdrawals. But this is less common than regulations governing water discharges. Companies are generally required to obtain state- or federal-level permits that allow them to discharge certain amounts of wastewater over a given period. Incidents of non-compliance with water regulations may be the result of a variety of events relating to water quality management, including the failure to meet a reporting deadline or a water discharge above permit limits. The magnitude of the regulatory response will

³ The provisional version of this metric was NR0201-04 - Number of incidents of non-compliance with water quality permits, standards, and regulations.

vary depending on the nature of the non-compliance. For example, failure to meet a reporting deadline may result in a non-compliance notice or warning letter with little to no financial impact for the company. An effluent regulation exceedance could, however, result in a company being issued a formal enforcement action, resulting in remediation costs, fines, and/or reputational damage.

Formal enforcement actions, as defined by the U.S. Environmental Protection Agency (EPA)⁴ and some state agencies, are statutorily recognized actions to address a violation or threatened violation of water regulations, policy, or orders, and include administrative penalty orders, administrative orders, and judicial actions, among others. These types of enforcement actions can result in financial penalties and remediation requirements and can be indicative of overall management of water issues over time. Conversely, non-compliance incidents that result in informal enforcement actions may be issued when no actual violation has occurred and are significantly less likely to generate financial impacts for companies. Examples of non-compliance incidents include an inspection, phone call, or violation letter. Correspondingly, formal enforcement actions are less common than informal actions. According to EPA data, of 5,102 U.S. facilities that received notices of non-compliance with water regulation, only 519 resulted in formal enforcement actions.⁵

The provisional metric requires reporting of incidents of non-compliance regardless of whether they result in a formal enforcement action. Reporting all incidents of non-compliance does not distinguish between the severity of incidents and the resulting potential for financial impacts to the company. This creates an undue cost burden for the company related to data collection, tracking, and reporting. It also adversely affects the usefulness and fair representation of the resulting disclosures.

As incidents that result in formal enforcement actions are more likely to result in financial impacts to the company, they are a relevant indicator of performance on the management of water quality. Thus, the revision confines the metric's scope to incidents that result in formal enforcement actions, thereby directly improving the representativeness, comparability, and usefulness of the information generated by the standard, and better adhering to the core objectives of the standard.

Market Input

Investors: A limited number of investors provided input on the revision. Such input broadly supported the revision, based on improvements to the decision-usefulness of resulting disclosures.

Companies: A limited number of companies provided input on the revision. Such input constituted support for revising the scope of this metric to focus on notices of violations that result in formal enforcement actions, as doing so improves the decision-usefulness of the metric.

Others: Several subject matter experts commented that the revision more accurately reflects performance on the aspect of the topic related to regulatory compliance.

⁴ "Informal and Formal Actions, Summary of Guidance and Portrayal on EPA Websites," United States Environmental Protection Agency, last modified July 1, 2010, accessed July 10, 2018, <https://www.epa.gov/sites/production/files/2013-11/documents/actiondefs.pdf>.

⁵ "Analyze Trends: State Water Dashboard," last modified on March 20, 2017, accessed July 10, 2018, <https://echo.epa.gov/trends/comparative-maps-dashboards/state-water-dashboard?view=performance&state=National>.

Benefits

Improves the SASB Standard: The revision results in disclosures more consistent with the guiding criteria of fair representation and comparability.

Improves decision-usefulness: By focusing on incidents of non-compliance that resulted in formal enforcement actions, the revision improves the usefulness of information generated by the standard as it improves the signal-to-noise ratio.

Improves cost-effectiveness: The revision narrows the scope of disclosure to a more specific (and meaningful) subset of non-compliance incidents, thereby improving the cost-effectiveness of the standard.

Improves alignment: The revision aligns the SASB Standard with existing reporting protocols and regulatory reporting requirements.

Revision EM-CO:03 – **Industry:** Coal Operations; **Topic Name:** Community Relations & Rights of Indigenous Peoples

Summary of Change – Split Topic

The SASB split the Community Relations & Rights of Indigenous Peoples into two separate topics, Community Relations and Rights of Indigenous Peoples.

The Community Relations topic retained metrics NR0101-10, “Number and duration of non-technical delays” as well as NR0101-09, “Discussion of process to manage risk and opportunities associated with community rights and interests.”

The Rights of Indigenous Peoples topic retained metric NR0201-11 related to proven and probable reserves in or near indigenous lands. In addition, a new discussion and analysis metric was added to the Rights of Indigenous Peoples topic, “Discussion of engagement processes and due diligence practices with respect to the management of indigenous rights.”

Adherence to Conceptual Framework

To better represent the distinct, industry-specific risks and management strategies associated with different elements of the topic, the Community Relations & Rights of Indigenous Peoples topic was split into Community Relations, which relates to company interaction with local communities, and Rights of Indigenous Peoples, which relates to human rights considerations.

While elements of these two topics are related, the management strategies employed by companies to manage community rights and the rights of indigenous peoples can vary. Additionally, depending on the geographical location of the assets or facilities associated with a given company, the extent to which community relations or the management of indigenous rights material to a given company may vary. To recognize that these topics may be distinct both with respect to the management strategies employed and their materiality to companies in the industry, the topics have been split. To enhance the completeness of disclosure associated with the Rights of Indigenous Peoples topic, a discussion and analysis metric has been added.

Description of Community Relations Topic

Coal operations can take place over a number of years and can have a wide range of community impacts. Community rights and interests may be affected by the environmental and social impacts of operations, such as air emissions, waste generation, wastewater discharges, and decommissioning activities. Coal operations companies need support from local communities to be able to obtain permits and leases and conduct their activities without disruptions. The expected value of reserves could be affected if the community interferes, or lobbies its government to interfere, with the rights of a coal company in relation to those reserves. In addition to community concerns about the direct impacts of projects, the presence of coal mining activities may give rise to associated socioeconomic concerns related to education, health, and livelihoods. Coal companies that are perceived as engaging in rent-seeking and exploiting a community’s resources without providing any socioeconomic benefits in return may be exposed to the risk of resource nationalism actions by host governments and communities that restrict their activities or impose additional costs. Companies in the extractives industries can adopt various community engagement strategies in their global operations to manage risks and opportunities associated with community rights and interests, such as integrating

community engagement into each phase of the project cycle. Companies are beginning to adopt a “shared value” approach to provide key socioeconomic benefits to communities which also creates value for the companies themselves.

Description of Rights of Indigenous Peoples Topic

Companies in the Coal Operations industry can operate and hold assets in areas occupied by indigenous peoples. Companies perceived as contributing to human rights violations or failing to account for indigenous peoples’ rights may be affected due to protests, riots, or suspension of permits. They could face substantial costs related to compensation or settlement payments, and write-downs in the value of their reserves in such areas. In the absence of country laws to address such cases, several international instruments have emerged to provide guidelines for companies. These instruments include obtaining the free, prior, and informed consent of indigenous peoples for decisions affecting them. With greater awareness, several countries are also beginning to implement specific laws protecting indigenous peoples’ rights, creating increasing regulatory risk for companies. Furthermore, indigenous peoples are often the most vulnerable sections of the population, with limited capacity to defend their unique rights and interests.

Supporting Analysis for Community Relations

In an analysis of the eight largest companies in the Coal Operations by revenue, all of the companies reviewed disclose information related to the Community Relations angle of the topic, and most refer specifically to the Emergency Planning and Community Right-to-Know Act (EPCRA) which, among other provisions, requires that companies who own and/or operate facilities that maintain extremely hazardous substances (EHS) on-site in quantities greater than corresponding threshold planning quantities (TPQs) must cooperate with state and local governments to prepare emergency response plans as well as review plans annually. Specifically, Section 313⁶ of EPCRA contains specific guidance for coal mining facilities, citing certain chemicals covered under EPCRA that are “more likely than others to be encountered at coal mining facilities” which may require such additional management and disclosure.

In addition, coal mining companies are subject to federal and state permitting requirements. In the United States, for example, agencies involved in the permitting process include the U.S. Office of Surface Mining (OSM), U.S. Army Corps of Engineers (COE), U.S. Environmental Protection Agency (EPA), and U.S. Fish and Wildlife Service (FWS). Such permitting processes include public notice and subsequent public comment periods. For example, the U.S. Army Corps of Engineers’ permitting process requires such public notice per 33 CFR 325.3.⁷ Similarly, 30 CFR 773.⁸ requires public notice as part of the permitting process as administered by the Office of Surface Mining Reclamation and Enforcement, part of the U.S. Department of the Interior.

Such public input to the permitting process is a critical parameter considered by federal agencies in the process of reviewing and approving a permit application.

⁶ “Coal Mining Facilities: Section 313 of the Emergency Planning and Community Right-to-Know Act” Government of the United States, Environmental Protection Agency, last accessed on September 14, 2018, last updated March 27, 2018, https://ofmpub.epa.gov/apex/guideme_ext/guideme_ext/guideme/file/coal%20mining%20facilities.pdf.

⁷ “Processing of Department of the Army Permits” United States 33 CFR Part 325, last accessed September 14, 2018, last updated March 27, 2018, <https://www.law.cornell.edu/cfr/text/33/part-325>.

⁸ “Requirements for Permits and Permit Processing” United States 30 CFR Part 773, last accessed September 14, 2018, last updated March 27, 2018, <https://www.law.cornell.edu/cfr/text/30/part-773>.

Supporting Analysis for Rights of Indigenous Peoples

In an analysis of the eight largest companies in the Coal Operations industry by revenue, three disclosed information related to the management of indigenous rights aspect of the topic. Permitting requirements in the United States require the formation of “an accountable process to ensure meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications” per Executive Order 13175⁹. Per the U.S. Army Corps of Engineers, “this document affirms the Corps’ legal responsibility to engage in pre-decisional consultation with federally recognized Tribes.”

Globally, the management of indigenous rights remains an important factor in the ongoing operations as well as the development of new coal mines. For example, the Carmichael coal mine in Central Queensland, Australia, has been subject to a legal dispute related to the National Title Act and refusal by certain indigenous groups to enter into an indigenous land use agreement with the mine developer. In Canada, the Minister of the Department of Aboriginal Affairs and Northern Development Canada developed guidance in 2011 related to aboriginal consultation and accommodation.¹⁰ In addition, the Prime Minister’s administration announced “the dissolution of Indigenous and Northern Affairs Canada (INAC) and a plan to create two new departments: Indigenous Services Canada and Crown-Indigenous Relations and Northern Affairs Canada.”

Both the existing and newly emerging regulations point to the continued materiality of the topic as a critical element for the development and operation of coal mining assets.

Market Input

Investors: No direct feedback was received from investors in the industry regarding the revision. However, investors who provided feedback for the sector generally supported revisions that would improve the clarity of the information generated by standard.

Companies: No direct feedback was received from companies in the industry regarding the revision. However, companies in the sector were generally supportive of revisions that aligned topics with company strategies for managing associated risks or opportunities.

Benefits

Improves the SASB Standard: The revision improves the quality and clarity of the standard by separating sustainability topics that are likely to be material and represent distinct, industry-specific sustainability risks.

⁹ “Statement on Signing the Executive Order on Consultation and Coordination With Indian Tribal Governments” Administration of William J. Clinton, last accessed September 14, 2018, last updated August 20, 2018, https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/Reg-EO13175tribgovt.pdf.

¹⁰ “Aboriginal Consultation and Accommodation” Government of Canada, last accessed September 14, 2018, last updated August 20, 2018, http://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-HQ/STAGING/texte-text/intgui_1100100014665_eng.pdf.

Revision EM-CO:04 – **Industry:** Coal Operations; **Topic Name:** Workforce Health, Safety, and Well-Being

2017 Technical Agenda Item #4-27 Description

The SASB is evaluating renaming the topic.

Summary of Change – Revise Topic Name

The SASB renamed the provisional topic Workforce Health, Safety, and Well-Being to Workforce Health & Safety.

Supporting Rationale

Workforce Health, Safety, and Well-Being was the topic name used in the provisional standard. The term “Well-Being” did not relate to the associated metrics, which communicate performance with respect to workforce injury and incident rates as well as policies and procedures to reduce or eliminate such injuries and incidents. To eliminate this potential uncertainty as well as improve the quality and clarity of the standard, the topic name was revised to Workforce Health & Safety.

Benefits

Improves the SASB Standard: The revision improves the clarity of the standard.

Revision EM-CO:05 – **Industry:** Coal Operations; **Topic Name:** Reserves Valuation & Capital Expenditures

Summary of Change – Revise Technical Protocol

The SASB revised the technical protocol associated with metric NR0201-16¹¹ to clarify the definition of the sensitivity analysis to be performed using the International Energy Agency’s (IEA) published scenarios. In addition, the revised protocol provides the company the opportunity to consider additional scenarios defined by the company if it chooses to disclose these supplemental scenarios.

Adherence to Attributes of Technical Protocols

The Coal Operations Industry Provisional Standard includes a topic for Reserves Valuation & Capital Expenditures with three associated metrics that describe the resilience of a company’s assets with respect to climate transition risk. Specifically, metric NR0201-16 recommends that companies disclose the sensitivity of coal reserve levels to future price projection scenarios that account for a price on carbon emissions. The provisional technical protocol defined that the sensitivity study should be performed using the IEA’s Current Policies, New Policies, and 450 Scenarios. While the provisional technical protocol was objective and relevant, two specific revisions were made to improve its measurability and completeness. First, the technical protocol was revised to directly reference the price projections associated with the scenarios. This ensures the consistent measurability of the disclosure by eliminating the illustrative examples and instead directly referring to the scenario results as published in the IEA’s World Energy Outlook (WEO), including those in the most recent version, in which the Sustainable Development Scenario replaced the 450 Scenario. Second, the technical protocol element that provides the opportunity for companies to disclose additional scenarios was clarified to enhance its completeness – i.e., that relevant factors that would alter a conclusion about the subject matter are not omitted from the scope of disclosure. This was accomplished by referencing the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) elements related to scenario analysis.

Supporting Analysis

The provisional standard for the Coal Operations industry refers to the IEA’s scenarios per its WEO. In previous versions of the WEO, the IEA provided three scenarios that represented potential outcomes of trends related to energy supply and demand. These three scenarios included:

- Current Policies Scenario: “. . . depicts a path for the global energy system shorn of the implementation of any new policies or measures beyond those already supported by specific implementing measures in place as of mid-2016.”
- New Policies Scenario : “. . . reflects the way that governments, individually or collectively, see their energy sectors developing over the coming decades. Its starting point is the policies and measures that are already in place, but it also takes into account (in full or in part) the aims, targets and intentions that have been announced, even if these have yet to be enshrined in legislation or the means for their implementation are still taking shape.”

¹¹ The provisional version of this metric was NR0201-16 - Sensitivity of coal reserve levels to future price projection scenarios that account for a price on carbon emissions

- 450 Scenario: “. . . [a] decarbonization scenario . . . which has the objective of limiting the average global temperature increase in 2100 to 2 degrees Celsius above pre-industrial levels.”

In its most recent version of its WEO Report, the IEA revised its scenarios from the Current Policies Scenario, New Policies Scenario, and 450 Scenario, to the Current Policies Scenario, New Policies Scenario, and Sustainable Development Scenario. Whereas the 450 Scenario in the past was primarily focused on achieving 450 ppm or less of CO₂ in the atmosphere, the Sustainable Development Scenario now includes three primary elements:

- “First, it describes a pathway to the achievement of universal access to modern energy services by 2030, including not only access to electricity but also clean cooking.”
- “Second, it paints a picture to 2040 that is consistent with the direction needed to achieve the objectives of the Paris Agreement, including a peak in emissions being reached as soon as possible, followed by a substantial decline.”
- “Third, it posits a large reduction in other energy-related pollutants, consistent with a dramatic improvement in global air quality and a consequent reduction in premature deaths from household air pollution.”

These elements were derived from the United Nations Sustainable Development Goals (SDGs) as well as the Paris Agreement and associated Nationally Determined Commitments (NDCs). As such, the technical protocol was revised to reference the most recent version of the WEO, and notes that companies shall consider the most current version of the WEO (including its associated scenarios) in the future.

With respect to the Sustainable Development Scenario versus the 450 Scenario, the IEA notes that “both [scenarios] aim at mitigating climate change . . . because many of the available technology solutions for the multiple goals are similar.” However, the IEA also cites several differences, most of which relate to the time scales involved: “the target to achieve universal energy access by 2030 and the significance of the impact of air pollution on human health already today mean that technology choices in the Sustainable Development Scenario can differ from a scenario that is solely driven by climate considerations, whose time scale is longer.” Other differences arise from the use of decentralized modular technology solutions with short lead times (including solar photovoltaics (PV) or wind power) used in the Sustainable Development Scenario versus centralized power generation associated with the 450 Scenario. An additional consideration is the use of biomass for power generation, which offers immediate climate benefits in the 450 Scenario, but is less advantageous in the Sustainable Development Scenario, which considers the need for post-combustion treatment to reduce air pollutant emissions. Overall, the Sustainable Development Scenario represents an “integrated energy policy” that reflects how government policies, technological trends, and other factors will influence the global energy mix in a manner that considers multiple constraints, including climate change, SDGs, air pollution, and other factors.

Associated with these scenarios, the IEA presents a discussion of impacts to supply and demand for coal and provides associated price projections for each scenario. The report also describes the inputs and assumptions for each scenario, including the major changes from previous revisions of the scenarios. As such, the WEO scenarios provide an objective, measurable baseline to enable comparable sensitivity analyses to be performed on a coal operations company’s reserve levels based on its published price projection scenarios. To enhance the measurability, the language

in the technical protocol was clarified to more clearly and directly reference these scenarios when a company is performing a sensitivity analysis of its reserves.

While these scenarios are the product of significant research and academic rigor, the IEA notes that, “The objective of this book is not to state what the IEA believes will happen to the energy system in future. The IEA holds no such single view. Rather, the aim is to discuss the most important factors and uncertainties likely to affect the energy system over the period [of the forecast]” and further that, “the intention is to inform decision-makers as they consider their options, not to predict the outcomes of their deliberations.” In recognition of these uncertainties, the technical protocol was revised to include a provision whereby companies can disclose sensitivity results related to other scenarios the company may view as important elements of overall disclosure associated with the topic. To improve the completeness of this technical protocol element with respect to the information that should be provided in such a disclosure, the protocol was revised to refer to the recommendations of the TCFD, which provides specific recommendations regarding disclosure elements associated with scenario analysis that organizations in the Energy sector should consider.

Finally, a review of existing disclosures made by the top five coal operations companies by revenues revealed that none currently report climate-related scenario analysis. Despite this lack of existing corporate reporting, widely accepted frameworks, such as the TCFD recommendations, highlight the importance of scenario analysis for coal operations companies. Specifically, the TCFD recommendations note that “organizations with more than one billion U.S. dollar equivalent (USDE) in annual revenue should consider conducting more robust scenario analysis to assess the resilience of their strategies against a range of climate-related scenarios, including a 2°C or lower scenario and, where relevant to the organization, scenarios consistent with increased physical climate-related risks.” All five of the companies reviewed reported revenues greater than 1 billion USDE, and thus would be subject to the TCFD’s recommendation to conduct a more robust scenario analysis for which the TCFD recommends the use of the IEA scenarios, among others.

Market Input

Investors: Investors generally expressed strong support for the materiality of the topic and interest in SASB aligning its disclosures with the TCFD recommendations report. Investors expressed the importance of sensitivities and/or scenarios being well defined to ensure comparability. Investors also suggested that the discussion of the likelihood of the scenario occurring and any potential strategic responses by management should be added to the quantitative disclosure. These additions made the analysis more decision-useful. Some investors expressed the importance of companies having the opportunity to self-assess or define scenarios the company views as more likely than reference scenarios. However, it was also noted by some investors that this may be technically challenging and costly for smaller companies to perform.

Companies: No company feedback was received on the Reserves Valuation & Capital Expenditures topic during the 2016/2017 Consultation Period or the 2017/2018 Public Comment Period from companies in the Coal Operations industry.

Others: Third parties suggested that the IEA scenarios may not be as decision-useful as a fixed-price sensitivity analysis, noting their tendencies to fluctuate over time, making comparisons across companies in a given year possible, but making comparisons across years for a single company challenging. To address this, third parties suggested that the disclosure define fixed prices for coal to allow companies to perform a sensitivity analysis along with a company

discussion and analysis of its views of how prices may be impacted by future climate-related regulation and/or technological innovation.

Benefits

Improves the SASB Standard: The SASB Standard clarifies the baseline sensitivity analysis requirements per the IEA's WEO as well as provides the opportunity for companies to disclose results and discuss the implications of additional scenarios it views as material to its investors (per the TCFD recommendations and both company and investor feedback).

Improves decision-usefulness: The revision provides well-defined scenarios to allow comparisons across companies within a given reporting year. The revision provides companies with the opportunity to disclose additional scenarios and present management's views of which pathway it sees as most likely to occur, as well as strategies to respond to these contingencies.

Improves alignment: Incorporates the Disclosure Considerations for Non-Financial Organizations from the Recommendations Report of the TCFD's Financial Disclosures.

Appendix A. Standards Board – Sector Committee Assignments

STANDARDS BOARD MEMBER	SECTOR CHAIR	OTHER COMMITTEES
Jeffrey Hales, PhD (Chair) Professor, Georgia Institute of Technology – Ernest Scheller Jr. College of Business	Financials, Renewable Resources & Alternative Energy	Transportation, Services, Resource Transformation
Verity Chegar (Vice Chair) Vice President, BlackRock	Extractives & Minerals Processing	Financials, Technology & Communications, Infrastructure
Robert B. Hirth Jr. (Vice Chair) Senior Managing Director, Protiviti; Chairman Emeritus, COSO	Technology & Communications	Health Care, Extractives & Minerals Processing, Services
Daniel L. Goelzer, JD Senior Counsel, Baker & McKenzie LLP	Services	Financials, Resource Transformation, Infrastructure
Kurt Kuehn Former CFO, United Parcel Service	Transportation, Infrastructure	Consumer Goods, Renewable Resources & Alternative Energy
Lloyd Kurtz, CFA Senior Portfolio Manager, Head of Social Impact Investing, Wells Fargo Private Bank	Health Care, Resource Transformation	Technology & Communications, Food & Beverage
Elizabeth Seeger Head of Sustainable Investing, KKR	Consumer Goods	Health Care, Extractives & Minerals Processing, Food & Beverage
Stephanie Tang, JD Director of Legal, Corporate Securities, Stitch Fix	Food & Beverage	Transportation, Consumer Goods, Renewable Resources & Alternative Energy

Appendix B. Redline Metric Tables

Redline tables are provided below for all sustainability accounting metrics (Table 1) and activity metrics (Table 2). All significant revisions to topics and metrics between the provisional standard and the codified standard are shown in redline; however, such redlines are not intended to communicate the full scope of such revisions, for which readers should refer to the codified Standard and accompanying content elsewhere in the *Basis for Conclusions*.

All redlines presented in these tables are associated with a revision number in the Revision Number column. Significant revisions to the technical protocol associated with a given metric will not necessarily be apparent in redline in the tables; however, the associated revision number will be noted in the Revision Number column of each table.

Any redlines that depict revisions to metrics but that are not accompanied by a revision number (i.e., “n/a”) are not addressed in the *Basis for Conclusions* as these revisions have not altered the scope or content of metrics, such as those that are intended to improve the consistency, clarity, and accuracy of the standard. Similarly, if a metric is not accompanied by a revision number, the technical protocol may have been revised to improve the consistency, clarity, and accuracy of the standard.

Coal Operations Industry

Table 1.

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	PROVISIONAL METRIC CODE	CODIFIED METRIC CODE ¹²	REVISION NUMBER
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under a regulatory program <u>emissions-limiting regulations</u>	Quantitative	Metric tons CO ₂ -e (t), Percentage (%)	NR0201-01	EM-CO-110a.1	EM-CO:01
	Description <u>Discussion</u> of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	n/a	NR0201-02	EM-CO-110a.2	n/a
Water Management	(1) Total fresh water withdrawn, (2) percentage recycled, (3) percentage in regions with High or Extremely High Baseline Water Stress	Quantitative	Thousand Cubic meters (m ³), Percentage (%)	NR0201-03	EM-CO-140a.1	n/a
	Number of incidents of non-compliance <u>associated</u> with water-quality permits, standards, and regulations	Quantitative	Number	NR0201-04	EM-CO-140a.2	EM-CO:02
Waste Management	Number of tailings impoundments by MSHA hazard potential	Quantitative	Number	NR0201-05	EM-CO-150a.1	n/a
Biodiversity Impacts	Description of environmental management policies and practices for active sites	Discussion and Analysis	n/a	NR0201-06	EM-CO-160a.1	n/a

¹² The Provisional Metric Code column provides the metric code that appeared in the Provisional Standard. The Codified Metric Code column provides the revised metric code that appears in the Codified Standard. The revised metric code is structured as follows: [Sector Code]-[Industry Code]-[Topic Code].[Metric Number].

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	PROVISIONAL METRIC CODE	CODIFIED METRIC CODE ¹²	REVISION NUMBER
	Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, (3) under treatment or remediation	Quantitative	Percentage (%)	NR0201-07	EM-CO-160a.2	n/a
	Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Quantitative	Million metric tons- (+)(Percentage (%))	NR0201-08	EM-CO-160a.3	n/a
Community Relations & Rights of Indigenous Peoples	Discussion of process to manage risks and opportunities associated with community rights and interests	Discussion and Analysis	n/a	NR0201-09	EM-CO-210b.1	EM-CO:03
	Number and duration of non-technical delays	Quantitative	Number, Days	NR0201-10	EM-CO-210b.2	EM-CO:03
	(1) Proven and (2) probable reserves in or near indigenous land	Quantitative	Million metric tons- (+)	NR0201-11	n/a	EM-CO:03
Rights of Indigenous Peoples	Percentage of (1) proved and (2) probable reserves in or near indigenous land	Quantitative	Percentage (%)	NR0201-11	EM-CO-210a.1	EM-CO:03
	Discussion of engagement processes and due diligence practices with respect to the management of indigenous rights	Discussion and Analysis	n/a	n/a	EM-CO-210a.2	EM-CO:03
Workforce Health & Safety and Well-Being	(1) MSHA All-Incidence Rate, (2) Fatality Rate , and (3) Near-miss Frequency Rate	Quantitative	Rate	NR0201-12	EM-CO-320a.1	EM-CO:04
	Discussion of management of accident and safety risks and long-term health and safety risks	Discussion and Analysis	n/a	NR0201-13	EM-CO-320a.2	EM-CO:04
Labor Relations	Percentage of active workforce covered under collective-bargaining agreements, broken down by U.S. and foreign employees	Quantitative	Percentage (%)	NR0201-14	EM-CO-310a.1	n/a
	Number and duration of strikes and lockouts	Quantitative	Number, Days	NR0201-15	EM-CO-310a.2	n/a

TOPIC	ACCOUNTING METRIC	CATEGORY	UNIT OF MEASURE	PROVISIONAL METRIC CODE	CODIFIED METRIC CODE ¹²	REVISION NUMBER
Reserves Valuation & Capital Expenditures	Sensitivity of coal reserve levels to future price projection scenarios that account for a price on carbon emissions	Quantitative	Million metric tons (Mt)	NR0201-16	EM-CO-420a.1	EM-CO:05
	Estimated carbon dioxide emissions embedded in proven coal reserves	Quantitative	Metric tons CO ₂ -e (t)	NR0201-17	EM-CO-420a.2	n/a
	Discussion of how price and demand for coal and/or emissions-climate regulations influence the capital expenditure strategy for exploration, acquisition, and development of assets	Discussion and Analysis	n/a	NR0201-18	EM-CO-420a.3	n/a

Table 2.

ACTIVITY METRIC	CATEGORY	UNIT OF MEASURE	PROVISIONAL METRIC CODE	CODIFIED METRIC CODE ¹³	REVISION NUMBER
Production of thermal coal	Quantitative	Million metric tons (Mt)	NR0201-A	EM-CO-000.A	n/a
Production of metallurgical coal	Quantitative	Million metric tons (Mt)	NR0201-B	EM-CO-000.B	n/a

¹³ The Provisional Metric Code column provides the metric code that appeared in the Provisional Standard. The Codified Metric Code column provides the revised metric code that appears in the Codified Standard. The revised metric code is structured as follows: [Sector Code]-[Industry Code]-[Topic Code].[Metric Number].

SUSTAINABILITY ACCOUNTING STANDARDS BOARD

1045 Sansome Street, Suite 450

San Francisco, CA 94111

415.830.9220

info@sasb.org

sasb.org
